

Center for Ventricular Assist Device

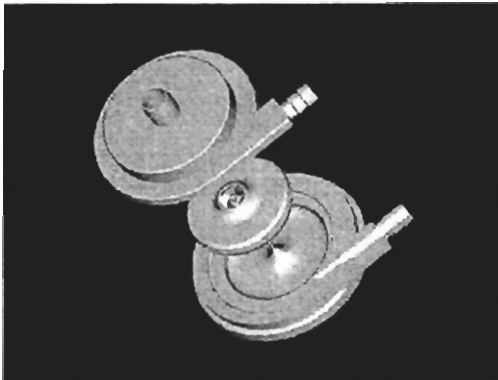
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Background

Established in 1995, the goals of the center are to develop a magnetically suspended centrifugal blood pump to be used as continuous-flow ventricular assist device for nearly all sizes of human patients.

Technology Development Progress

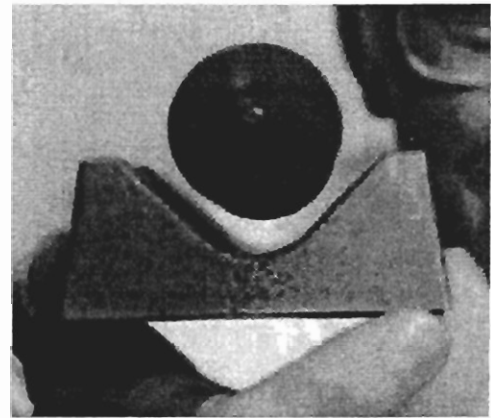
A prototype continuous flow ventricular assist device (CVAD2), which has all-electromagnetic bearings has been designed and developed. The centrifugal blood pump is gentle to the blood and is suspended in magnetic bearings. The pump output (rotor speed) is readily controlled to meet the physiologic needs of the patient. This device can pump blood over a wide range of cardiac output from 1 to 10 liters/min, effectively satisfying the physiological needs and excellent blood flow dynamics.



Prototype - continuous flow ventricular assist device 3

Highlights and Accomplishments

The center received the Sezai Innovative Research Award at the International Society for Rotary Blood Pumps in 1995. In collaboration with the University of Virginia, a new prototype which will incorporate permanent magnet technology with further miniaturization is under development. The unique advantage of the CVAD is the absence of mechanical bearings and seals. In the long-term, these cost-effective efficient devices could be implanted in patients.



Don Olsen hopes to use a magnetic field, similar to the one that keeps the spindle in this toy suspended in air, to create an artificial heart with a pump that has no flexing parts.
(Salt Lake Tribune Nov. 14, 1996)

Summary Data:

Current

1995-96 Award	\$100,000
Matching Funds	\$1,178,000
Patents Pending	2
Patents Issued	0
License Agreements	0
Spin-off Companies	0
Companies Assisted	2
Industry Jobs	0
Center Jobs	8

Cumulative

Awards	\$100,000
Matching Funds	\$1,178,000
Patents Issued	0
License Agreements	0
Spin-off Companies	0